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CHECKLIST  
of the  
MOSSES  
of  
NEW YORK  
STATE

By  
EDWIN H. KETCHLEDGE  
*Temporary Museum Expert*  
*New York State Museum and Science Service*

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NEW YORK STATE MUSEUM

BULLETIN NUMBER 363

*The University of the State of New York*  
*The State Education Department*

Albany, N. Y.

November 1957

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Cover Illustration: The drawing of *Fissidens taxifolius*, a widespread species in New York State, was prepared by Theodore C. Bain of Schenectady, New York.

# CHECKLIST OF THE MOSSES OF NEW YORK STATE

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## NEW YORK STATE MUSEUM AND SCIENCE SERVICE

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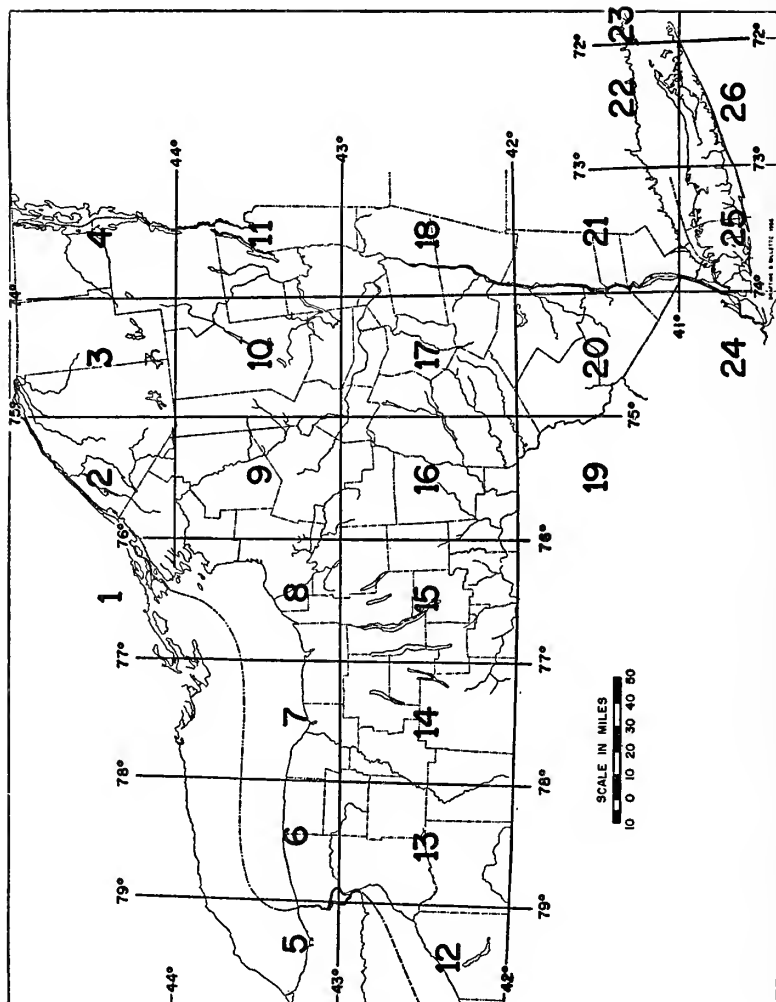
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## PREFACE

In accordance with the duty of the New York State Museum and Science Service to study the living organisms of the State and to report their natural history, it is proposed to issue a series of checklists on various biota occurring in New York. These checklists will report the taxonomic composition of each group and will indicate the distribution of the component members within the State. It is hoped that the checklists will encourage interested persons to aid in the biological exploration of poorly known districts. Such participation by all concerned is essential to the preparation of adequate floras and faunas for New York State.

This is the first of such checklists. It represents the first accounting of the mosses of the State since 1866.

WILLIAM N. FENTON  
*Assistant Commissioner for  
State Museum and Science Service*





# CHECKLIST OF THE MOSSES OF NEW YORK STATE

By

EDWIN H. KETCHLEDGE

*Temporary Museum Expert*

*New York State Museum and Science Service\**

## INTRODUCTION

This checklist of the mosses of New York State is a progress report summarizing present knowledge of the distribution of mosses within New York. It serves as a forerunner to a State Moss Flora and is presented now with the hope of stimulating latent bryological interest among fellow botanists and students of New York vegetation.

The present study began in 1949 as a joint project of the author and the Botany Section of the State Museum. Through the agency of the Graduate Student Honorarium program established by the State Science Service, the author initiated a survey of the moss flora of the Adirondack region. Following two summers of fieldwork and after a systematic review of botanical literature, a preliminary list of mosses was prepared, reporting 320 species, excepting the genus *Sphagnum*, from northern New York. In 1951, the study was expanded to include the entire State. On continued field and herbarium research, likewise sponsored by the Honorarium program, it was revealed that slightly over 400 species of true mosses occur in New York. During the ensuing four years, approximately eight thousand specimens were examined and hundreds of stations added to the catalog of State mosses.

The known moss flora of New York State consists of 3 orders, 45 families, 147 genera, 439 species and 61 varieties. This is a larger number of species than that reported thus far for any other political division in the United States. Within the State, mosses vary greatly in abundance and frequency. Many species exhibit wide ecological amplitude and are relatively common in all sections of the State: thus, *Mnium cuspidatum* and *Ceratodon purpureus* occur in all 26 districts. Numerous other species appear in New York solely as outliers of subtropical or arctic ranges. For example, *Aulacomnium turgidum*, a weedy species of arctic regions, is known in New York only from Mount Marcy and *Pogonatum brachyphyllum*, a subtropical Coastal

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\* Assistant Professor of Forest Botany, State University of New York College of Forestry at Syracuse University.

Plain species, occurs only at Orient, Long Island. The majority of New York mosses, however, are boreal or Temperate Zone species and occur abundantly in the State; their apparent absence from various districts reflects, for the most part, the lack of sufficient fieldwork in those sections of New York, rather than poverty of the moss flora itself.

The distribution-districts used in the checklist are based on "square" degrees of latitude and longitude and are numbered consecutively beginning in the northwest corner of the State (see map, frontispiece). The following symbols indicate the presence of species and varieties in the districts:

- X specimens seen and examined
- L authentic literature reports
- M personal communications from monographers
- V district approximate
- ? specimen reported, but locality questioned

One taxon,\* typical *Fontinalis antipyretica*, is reported for New York by Welch (personal communication), but the exact locations of the stations are unknown.

To date, the investigation reveals 4,035 district records for New York mosses, distributed among the districts as follows:

District :	1	7	12	19	From 1 to 50 species and varieties		
District :	2	5	8	23	From 51 to 100 species and varieties		
District :	6	14	16	21	22	26	From 101 to 150 species and varieties
District :	3	9	24	From 151 to 200 species and varieties			
District :	10	13	20	25	From 201 to 250 species and varieties		
District :	4	11	15	17	18	From 251 to 300 species and varieties	

In the checklist, families are, in general, arranged according to Brotherus in *Die natürlichen Pflanzenfamilien*, Ed. 2, 1924-25; within families, the genera, species and varieties appear alphabetically. Taxonomy of the *Sphagnales* follows Andrews in *North American Flora*, v. 15, pt. 1, 1913. For the most part, taxonomy of the *Andreaeales* and *Bryales* agrees with *Moss Flora of North America, North of Mexico*, Grout *et al.*, 1928-40. Binomials differing from those of the floras are designated by an asterisk and may be found listed with the corresponding flora name at the end of the checklist proper.

Wherever consistent with sound taxonomic practice, properly described varieties have been maintained throughout the checklist, with minor exceptions. Taxonomic validity of these entities will be more

\* A taxon is a taxonomic category of any rank.

thoroughly reviewed in a forthcoming flora, now in preparation. For the time being, however, three new combinations must be proposed, albeit reluctantly, in order to incorporate three varieties in the checklist. The combinations are as follows:

*Eurhynchium pulchellum* var. *scabrisetum* (Grout) *comb. nov.*

*Eurhynchium strigosum* var. *scabrisetum* Grout, Bull. Torr. Bot. Club 25: 241. 1898.

*Hypnum lindbergii* var. *demissum* (Schimp.) *comb. nov.*

*Hypnum arcuatum* var. *demissum* Schimp., Syn. (Ed. 2) 758. 1876.

*Hypnum lindbergii* var. *elatum* (Schimp.) *comb. nov.*

*Hypnum arcuatum* var. *elatum* Schimp., *loc. cit.*

Throughout the course of the investigation, the author received gratifying assistance and advice from a number of colleagues and fellow bryologists. Dr. William C. Steere, professor of botany and dean of the Graduate Division, Stanford University, aided the author in many determinations and was a constant source of personal and professional guidance. Dr. Howard A. Crum, curator of the Cryptogamic Herbarium, National Museum of Canada, Ottawa, likewise served both as friend and professional counselor. Dr. A. LeRoy Andrews, dean of American bryologists and authority on *Sphagnum*, has kindly consented to the inclusion of his determinations of New York State specimens in the checklist; no other records are cited for this genus.

Mr. Roy Latham, Orient, New York, made his personal collection available at this time, greatly augmenting knowledge of the moss flora of Long Island. The author also owes a debt of gratitude to Stanley Jay Smith, curator of botany of the New York State Museum and Science Service; without his unfailing support, assistance on field trips and help in the preparation of the checklist, this study would not now be ready.

From time to time, the author has enlisted the aid of various specialists and monographers and wishes now to acknowledge their many kindnesses, including identifications, especially of A. LeRoy Andrews, professor emeritus of German, and honorary curator of the bryological collection in the Wiegand Herbarium of Cornell University, Ithaca (*Sphagnaceae*, *Bryaceae* and *Mniaceae*); Geneva Sayre, chairman of the Department of Biology, Russell Sage College, Troy (*Grimmiaceae*, *Aulacomniaceae* and *Timmiaceae*); Winona H. Welch, professor of botany, DePauw University, Greencastle, Indiana

(*Fontinalaceae*), and William T. Winne, professor of biology, Union College, Schenectady (aquatic mosses).

The directors and staffs of several herbaria kindly placed materials and facilities at the author's disposal during the study, for which he is deeply grateful; these include the New York Botanical Garden, the Buffalo Museum of Natural Science, Cornell University, State University of New York College of Forestry at Syracuse University, Union College, University of Michigan and Stanford University. Acknowledgments would not be complete without a special note of thanks to the director and staff members of the New York State Museum and Science Service, especially E. C. Ogden, State botanist. They, from the beginning, encouraged the study and rendered both financial and logistic support.

It is hoped that publication of this checklist will stimulate bryologists and other botanists and naturalists to collect mosses, particularly in those districts which have been poorly explored bryologically. Specimens, properly labeled with collection data (habitat, locality and date of collection) may be sent to the State Herbarium, New York State Museum and Science Service, Albany. The staff there will see that they are verified or identified by competent authorities.

[illegible]



		DISTRICTS (See Map)																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
ANDREAEALES ANDREAEACEAE																											
Andreaea																											
<i>rothii</i> Web. & Mohr							X				X	X	X	X			X			X		X				X	
<i>v. crassinervia</i> (Bruch) Mönkem.					X																						
<i>rupestris</i> Hedw.		X	X	X					X	X	X						X	X								X	
<i>v. alpestris</i> (Thed.) Sharp					?																						
BRYALES FISSIDENTACEAE																											
Fissidens																											
<i>adiantoides</i> Hedw.		X	X	X	X		X		X	X	X	X	X	X	X		L	X	X		X		X			X	X
<i>bryoides</i> Hedw.										X	X	X	X	X			X	X	X		X						
<i>v. incurvus</i> (Stark ex Web. & Mohr) Huben																		X	X		X					X	
<i>cristatus</i> Wils.			X	X	X		X		X	X	X						X	X	X		X					X	X
<i>debilis</i> Schwaegr. *		X					X		X	X		X					X		X		X					X	X
<i>exiguus</i> Sull.										X		X	X	X			X										
<i>exilis</i> Hedw. *						X		X	X	X		?	X	X	X	X	X	X		X							
<i>grandifrons</i> Brid.																	X										
<i>hallianus</i> (Sull. & Lesq.) Mitt.										L							X	X	X		X				X	X	
<i>minutus</i> Sull.		X							X	X		L	X	X	X	X	X	X	X		X				X	X	
<i>obtusifolius</i> Wils.																											
<i>osmundioides</i> Hedw.		X	X						X	X	X	X	X	X	X	X	X	X	X		X				X	X	

	DISTRICTS (See Map)																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
BRYALES																										
FISSIDENTACEAE																										
Fissidens—(Continued)																										
subbasilaris Hedw.....									X		X	X	X	X	X		X		X	X				X	X	
taxifolius Hedw.....	X				L	X		X	X		L	X	X	X	X	X	X	X	X	X	X				X	X
viridulus (Web. & Mohr) Wahlenb.....															X											
ARCHIDIACEAE																										
Archidium																										
alternifolium (Hedw.) Schimp.....																					X				V	
ohioense Schimp.....																										
DITRICHACEAE																										
Bruchia																										
flexuosa (Sw.) C. Müll.....																		X						L	X	
sullivantii Aust.....																										
Ceratodon																										
purpureus (Hedw.) Brid.....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Distichium																										
capillaceum (Hedw.) B. S. G.....			X	X							?									?						
Ditrichum																										
lineare (Sw.) Lindb.....			X						X		X	X	L				X			X	X	X	X	X	X	X





		DISTRICTS (See Map)																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
DICRANACEAE																											
Arctoa																											
blyttii (B. S. G.) Grout.		X	X								?																
fulvella (Dicks.) B. S. G.		X																									
starkei (Web. & Mohr) Grout.		X	X																								
Dichodontium																											
pellucidum (Hedw.) Schimp.		X	X	X							L				X		V										
Dicranella																											
cerviculata (Hedw.) Schimp.																											? X
heteromalla (Hedw.) Schimp.		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
v. orthocarpa (Hedw.) Paris					L					X	X	L	L												X	X	X
rufescens (Smith) Schimp.										X	X	X			X	X	X	X	X	X	X						
schrebertiana (Hedw.) Schimp.*					X					X			L		X	X									X	X	
subulata (Hedw.) Schimp.					V																X						
varia (Hedw.) Schimp.					X		X	X			X	X	X	X	X	X	X	X	X	X	X				X	X	
Dicranodontium																											
denudatum (Brid.) E. G. Britt.					X		X				X		X								X						
Dicranoweisia					X																						
crispula (Hedw.) Lindb.																											
Dicranum																											
bergeri Bland.					X				X		X	X			X		X	X	X	X	L	X				X	
bonjeanii De Not.					X						X	L	X								X					X	
condensatum Hedw.		X					X				X											X		X	X	X	X



	DISTRICTS (See Map)																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
DICRANACEAE																										
Rhabdoweisia denticulata (Brid.) B. S. G..... v. americana Culman <i>in</i> Grout.....			X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X						
LEUCOBRYACEAE																										
Leucobryum albidum (Brid.) Lindb..... glaucum (Hedw.) Schimp.....	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CALYMPERACEAE																										
Syrrophodon floridanus Sull..... texanus Sull.....																									L	L
ENCALYPTACEAE																										
Encalypta ciliata Hedw..... v. microstoma Schimp..... streptocarpa Hedw.....	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				L	



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	DISTRICTS (See Map)																									
POTTIACEAE																										
Gynnostomum aeruginosum Smith..... calcareum Nees & Hornsch..... Hymenostylium recurvirostrum (Hedw.) Dixon * ..... Hyophila tortula (Schwaegr.) Hampe.....	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X		X				X	
Phascum cuspidatum Hedw..... v. americanum Ren. & Card..... Pottia truncata (Hedw.) Fühnr..... Tortella fragilis (Hook. & Wils. ex Drummm.) Limpr.... humilis (Hedw.) Jenn.* ..... nitida (Lindb.) Broth..... tortuosa (Hedw.) Limpr.....						X					X	X	X	X	X	X	X	X	X					X	L	
Tortula intermedia (Brid.) Berk..... mucronifolia Schwaegr..... muralis Hedw.....					X			X			X	X	X	X	X	X	X	X	X						X	X

		DISTRICTS (See Map)																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
POTTIACEAE																											
Tortula—( <i>Continued</i> )																											
	papillosa Wils. <i>in</i> Spruce.....	X	X		X			X	X					X	X				X	X		X				X	X
	ruralis (Hedw.) Smith.....																										
Trichostomum																											
	tenuirostre (Hook & Tayl.) Lindb. *.....				X			X					X						X		X						
Weissia																											
	controversa Hedw. *.....	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X				X
GRIMMIACEAE																											
Grimmia																											
	affinis Hornsch. *.....				X							X															
	agassizii (Sull. & Lesq.) Lesq. & James.....																										
	alpestris Nees.....																										
	apocarpa Hedw.....	X	X	X	X	X		X	X	X	X	X		X	X				V							X	X
	<i>v. alpicola</i> (Hedw.) Hartm. *.....				X	X						X	X	X	X				X	X		X					
	<i>v. ambigua</i> (Sull.) Jones.....																		X	X		X					
	<i>v. conferta</i> (Funk) Spreng.....				X														X	X		X					
	<i>v. dupretii</i> (Thér.) Sayre *.....											X	X	X	X				X	X		X					
	<i>v. stricta</i> (Turn.) Mitt. *.....				X	X						?							X	X		X					X
donniana Smith.....					X	X																					
laevigata (Brid.) Brid.....																											







	DISTRICTS (See Map)																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
SPLACHNACEAE																											
Splachnum																											
ampullaceum Hedw.....			X								X																
rubrum Hedw.....			X																								
Tetraplodon																											
angustatus (Hedw.) B. S. G.....				X														X									
mnioides (Hedw.) B. S. G.....				X							X							X									
SCHISTOSTEGACEAE																											
Schistostega																											
pennata (Hedw.) Hook. & Tayl.....			X	X					X									X		X							
TETRAPSIDACEAE																											
Tetraphis																											
pellucida Hedw..	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tetrodontium																											
brownianum (Dicks.) Schwaegr.*				X																							
BRYACEAE																											
Bryum																											
alpinum With.....																											
angustirete Kindb.*				L						X	X	X	X	X	X						X	X			X	X	



[illegible]











	DISTRICTS (See Map)																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<b>FONTINALACEAE</b>																										
<b>Fontinalis</b>																										
antipyretica Hedw.....																										
v. gigantea Sull.....	X	X	X								X	X				X	X		X	X	X	X				
dalecarlica B. S. G.....			X	X		X					L	L			X	X	X	X	X							
disticha Hook. & Wils. <i>in</i> Drum.																										
duriaei Schimp.....	X					X		X	X		X	X	X		X	X		X			X	X				X
hypnoides Hartm.....												V														
lescurei Sull.....											X	X	X		X		X	X	X	X	X	X	X	X	X	X
novae-angliae Sull.....						X			X	X	X	X	X		X		X	X	X	X	X	X				
v. cymbifolia (Aust.) Welch.....					X																					
v. groutii Welch.....																										L
v. latifolia Card.....						X					X				X		X									
sullivantii Lindb.....											L										X					L
<b>CLIMACIACEAE</b>																										
<b>Climacium</b>																										
acuminatum Warnst. *						X	X	X	X	X	L	X	X	X	X	X	X	X	X	X			X	X	L	
americanum Brid.....	X			X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
v. kindbergii Ren. & Card. *											X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
dendroides (Hedw.) Web. & Mohr.....		X	X	X			X			X	X	X	X	X	X	X	X	X	X	X						



	DISTRICTS (See Map)																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
NECKERACEAE																											
Porotrichum alleghaniense (C. Müll.) Grout.....	X			X	X						X	X	X	X		X	X		X								
LEMBOPHYLLACEAE																											
Pseudisothecium myosuroides (Hedw.) Grout.....														X													
THELIACEAE																											
Myurelia julacea (Schwaegr.) B. S. G..... sibirica (C. Müll.) Reim.* ..... Thelia asprella Sull..... v. lescurii (Sull.) Habeeb*..... hirtella (Hedw.) Sull.....			X X					X		X	X	X	X	X		L	X	X	X	X	X	X	X	L	X	X	X
FABRONIACEAE																											
Anacamptodon splachnoides (Froehl.) Brid..... Schwetschkeopsis denticulata (Sull.) Broth.....			X	X							X	X	X	X		X	X		X							X	X



	DISTRICTS (See Map)																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>THUIDIACEAE</b>																				
Anomodon—( <i>Continued</i> )																				
rugelii (C. Müll.) Keissl.....			X	X	X	X		X	X	X	X					X	X	X	X	
viticulosus (Hedw.) Hook. & Tayl.....	X		X	X	V		X													
Haplocladium					X				L		X	X	L	X	X		X	X	L	X
microphyllum (Hedw.) Broth. *											X	X								
virginianum (Hedw.) Broth. *											X	V	X							
Haplohymenium															X		X	X		
triste (Cesati) Kindb. *																				
Helodium																				
blandowii (Web. & Mohr) Warnst.....			X	X		X		X			X	X	X	X	X		X	X	X	X
paludosum (Sull.) Aust.....			X	X							X	L	X	X			X	X	X	X
v. helodioides (Ren. & Card.) Grout.....																			L	
Heterocladium																				
squarrosulum (Voit) Lindb.....			V																	
Rauvella																				
scita (Palis.) Reim. *			X	X					L		X	L	X				X	X	L	
Thuidium																				
allenii Aust.....																				
delicatulum (Hedw.) Mitt.....	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	L
minutulum (Hedw.) B. S. G.....			X	X				X		X	X	V	X	X			X	X	X	
philibertii Limpr.....			X	X	X							L								



		DISTRICTS (See Map)																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
AMBLYSTEGIACEAE																											
Calliergonella		X	X	X			X	X	X		X	X	L	X			X	X				X	L		X	X	
cuspidata (Brid.) Loeske																											
Campyllum		X	X	X			X	X	X		X	X	X				X	X	X	X	X	X	X	X	L		
chrysophyllum (Brid.) Bryhn							X	X	X		X	X	X				X	X	X	X	X	X	X	X	L		
hispidulum (Brid.) Mitt.		X	X	X			X	X	X		X	X	X				X	X	X	X	X	X	X	X	X		
polygamum (B. S. G.) Bryhn							X	X	X		X	X	X				V	X	X	X	X	X	X	X	X	V	
radicale (Palis.) Grout				L							L	V	X				X	X	X	X	X	X	L	X	X		
stellatum (Hedw.) Lange & C. Jens.							X	X	X		X	X	X				X	X	X	X	X						
v. protensum (Brid.) Röhl.											V																
Cratoneuron																											
commutatum (Hedw.) Roth							L					?		X			X										
filicinum (Hedw.) Roth						X	X	X	X		X	X	X	X	X	X	X	X	X	X			X	X	X	X	X
Drepanocladus																											
aduncus (Hedw.) Warnst.		X	X				X	X	X		X	X	X	X	X	X	X	X	X	X	V		X		X	X	
v. capillifolius (Warnst.) Wynne																	X										
v. kneiffii (B. S. G.) Mönken.							X	X	X		X	X	X	X	X	X	X	X	X	X							
exannulatus (B. S. G.) Warnst.		X	X				X	X	X		X	X	X	X	X	X	X	X	X	X	X					L	X
v. rotata (De Not.) Grout																											
fluitans (Hedw.) Warnst.		X	X	X			X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
revolvens (Turn.) Warnst.							X										X	X	X	X	X						
uncinatus (Hedw.) Warnst.		X	X				X				X	X	X	X	X	X	X	X	X	X	X			X			
vernicosus (Lindb.) Warnst.						X	X				X	X				X	X	X	X	X	X						













[illegible]

## DISTRICTS (See Map)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

## HYPNACEAE

## Hypnum—(Continued)

v. elatum (Schimp.) Ketchl. ....  
 pallescens (Hedw.) B. S. G. ....  
 pratense Koch .....  
 reptile Michx. ....

## Platygyrium

repens (Brid.) B. S. G. ....  
 P'tilium

crista-castrensis (Hedw.) De Not.\* .....

## Pylaisia

intricata (Hedw.) B. S. G. ....  
 polyantha (Hedw.) B. S. G. ....  
 selwynii Kindb. ....  
 subdenticulata B. S. G. ....

## Taxiphyllum

deplanatum (Sull.) Fleisch.\* .....

geophilum (Aust.) Fleisch.\* .....

## HYLOCOMIACEAE

## Hylocomium

brevirostre (Palis.) B. S. G. ....  
 pyrenaicum (Spruce) Lindb. ....















# SYNONYMY

PAGE	CHECKLIST NAME	FLORA NAME
11	<i>Sphagnum centrale</i>	<i>Sphagnum magellanicum</i> ( <i>in part</i> )
12	<i>S. warnstorffianum</i>	<i>S. warnstorffii</i>
13	<i>Fissidens debilis</i>	<i>Fissidens Julianus</i>
16	<i>Dicranella schreberiana</i>	<i>Dicranella Schreberi</i>
19	<i>Bryoerythrophyllum recurvirostrum</i>	<i>Didymodon recurvirostris</i>
20	<i>Hymenostylium recurvirostrum</i>	<i>Gymnostomum recurvirostrum</i>
	<i>Tortella humilis</i>	<i>Tortella caespitosa</i>
21	<i>Trichostomum tenuirostre</i>	<i>Trichostomum cylindricum</i>
	<i>Weissia controversa</i>	<i>Weisia viridula</i>
	<i>Grimmia affinis</i>	<i>Grimmia ovalis</i>
	<i>G. apocarpa</i> v. <i>alpicola</i>	<i>G. alpicola</i>
	<i>G. apocarpa</i> v. <i>dupretii</i>	<i>G. Dupreti</i>
	<i>G. apocarpa</i> v. <i>stricta</i>	<i>G. apocarpa</i> v. <i>gracilis</i>
23	<i>Physcomitrium pyriforme</i>	<i>Physcomitrium turbinatum</i>
24	<i>Tetradontium brownianum</i>	<i>Tetraphis Browniana</i>
	<i>Bryum angustirete</i>	<i>Bryum pendulum</i>
25	<i>B. pseudotriquetrum</i>	<i>B. bimum</i>
	<i>B. uliginosum</i>	<i>B. cernuum</i>
	<i>Pohlia delicatula</i>	<i>Pohlia carnea</i>
26	<i>Mnium longirostrum</i>	<i>Mnium rostratum</i>
27	<i>M. serratum</i>	<i>M. marginatum</i>
28	<i>Conostomum tetragonum</i>	<i>Conostomum boreale</i>
30	<i>Ulota hutchinsiae</i>	<i>Ulota americana</i>
31	<i>Climacium americanum</i> v. <i>kindbergii</i>	<i>Climacium Kindbergii</i>
32	<i>Forsstroemia trichomitria</i>	<i>Leptodon trichomitrium</i>
33	<i>Myurella sibirica</i>	<i>Myurella Careyana</i>
	<i>Thelia asprella</i> v. <i>lescurii</i>	<i>Thelia lescurii</i>
34	<i>Leskeella nervosa</i>	<i>Leskea nervosa</i>
	<i>Abietinella abietina</i>	<i>Thuidium abietinum</i>
35	<i>Haplocladium microphyllum</i>	<i>Thuidium microphyllum</i>
	<i>H. virginianum</i>	<i>T. virginianum</i>
	<i>Haplohymenium triste</i>	<i>Anomodon tristis</i>
	<i>Raiiella scita</i>	<i>Thuidium scitum</i>
38	<i>Hygroamblystegium tenax</i>	<i>Hygroamblystegium irriguum</i>
	<i>Hygrohypnum luridum</i>	<i>Hygrohypnum palustre</i>
	<i>Platyhypnidium rusciforme</i>	<i>Eurhynchium rusciforme</i>
	<i>Platylomella lescurii</i>	<i>Sciaromium lescurii</i>
39	<i>Brachythecium flagellare</i>	<i>Brachythecium plumosum</i>
40	<i>Eurhynchium pulchellum</i>	<i>Eurhynchium strigosum</i>
41	<i>Oxyrhyrachium hians</i>	<i>Eurhynchium hians</i>
	<i>Rhynchostegium serrulatum</i>	<i>Eurhynchium serrulatum</i>
	<i>Pleurozium schreberi</i>	<i>Calliergonella Schreberi</i>
43	<i>Ctenidium molluscum</i>	<i>Hypnum molluscum</i>
	<i>Dolicotheca striatella</i>	<i>Plagiothecium striatellum</i>
	<i>Hypnum lindbergii</i>	<i>Hypnum arcuatum</i>
44	<i>Ptilium crista-castrensis</i>	<i>Hypnum crista-castrensis</i>
	<i>Taxiphyllum deplanatum</i>	<i>Plagiothecium deplanatum</i>
	<i>T. geophilum</i>	<i>P. geophilum</i>
47	<i>Mnium pseudopunctatum</i>	<i>Mnium punctatum</i> ( <i>in part</i> )
49	<i>Weissia microstoma</i>	<i>Weisia microstoma</i>

For the following species and variety, not listed in the Moss Flora, the references cited may be consulted:

PAGE	CHECKLIST NAME	REFERENCE
13	<i>Fissidens exilis</i>	The Bryologist 53: 131-136. 1950
23	<i>Funaria flaviseta</i>	Hedwigia 57: 90-93. 1915
31	<i>Climacium acuminatum</i>	Hedwigia 57: 129-130. 1915
40	<i>Bryhnia angustifolia</i>	Hedwigia 57: 115-116. 1915
	<i>Camptothecium nitens</i> , v. <i>falcifolium</i>	Rhodora 15: 12. 1913

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